

ITEM FOR FINANCE COMMITTEE

**HEAD 156 GOVERNMENT SECRETARIAT :
EDUCATION AND MANPOWER BUREAU**

Subhead 700 General non-recurrent

New Item “Measures to Support the Development of the New Academic Structure for Senior Secondary Education and Higher Education”

Members are invited to approve a new commitment of \$2,447.2 million for implementing measures to support the development of the New Academic Structure for Senior Secondary Education and Higher Education.

PROBLEM

The University Grants Committee (UGC)-funded institutions and secondary schools need non-recurrent resources to migrate to the new academic structure for senior secondary education and higher education (the “3+3+4” academic structure).

PROPOSAL

2. The Secretary for Education and Manpower proposes to create a new non-recurrent commitment of \$2,447.2 million for implementing the measures to support the development of the new academic structure over the period of seven school years from 2005/06 to 2011/12.

3. The new academic structure will be implemented starting with the first cohort proceeding to Senior Secondary 1 in the 2009/10 school year, and the first year of the four-year undergraduate programme in 2012/13 academic year. The development measures to support the UGC-funded institutions and secondary schools in the preparatory period (i.e. four school years from 2005/06 to 2008/09) and transitional period (i.e. three school years from 2009/10 to 2011/12) for the new academic structure are set out below –

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The UGC sector

- (A) Development of the new undergraduate programme

The secondary school sector

- (B) Development of the New Senior Secondary (NSS) curriculum
- (C) Provision of diversified learning opportunities for students
- (D) Provision of core training for school principals and teachers
- (E) Teacher Professional Preparation Grant
- (F) NSS Curriculum Migration Grant
- (G) Transitional arrangement for public examinations and assessment

JUSTIFICATION*Development of the new undergraduate programme*

4. The new academic structure entails an extra year of university education. The four-year undergraduate programme should be coherent, and the additional year should not be a simple add-on to the current three-year undergraduate programme. The Administration expects the UGC-funded institutions to take an integrated approach to redesign their four-year programmes, taking into account the changes to the NSS education and the opportunity for a broader education conducive to all-round development of the students. The UGC together with its funded institutions will need to start working on the review and redesign of the curriculum for the four-year undergraduate programmes taking into account –

- (a) the NSS curriculum which have a broader exposure but is at the same time less specialised;
- (b) changes to the admission criteria of the UGC-funded institutions under the new academic structure;
- (c) the need to broaden the exposure of undergraduates under the future four-year undergraduate programme;

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- (d) the need to accommodate students who are studying three-year and four-year undergraduate programmes concurrently during the transitional period; and
 - (e) the need to facilitate credit recognition and transfer between institutions, articulation between programmes, and the admission and exit of students at different levels.
5. The UGC-funded institutions will also need to incur additional transitional costs in various areas, for example –
- (a) engaging additional academic, professional and supporting staff ahead of the admission of the first cohort of students under the new academic structure to prepare for various changes and ensure smooth migration; and
 - (b) administrative expenses for revising and upgrading the relevant information systems of the institutions so as to cater for the new arrangements on admission, student record and assessment management and student finance administration.

Development of the NSS curriculum

6. Under the new academic structure, senior secondary students will take four core subjects (Chinese Language, English Language, Mathematics and Liberal Studies), as well as two to three elective subjects and/or Career-oriented Studies (COS), complemented by formal exposure to other learning experiences. There will be a total of 24 NSS subjects falling under eight Key Learning Areas. Some of the subjects are entirely new and need to be developed from the start; some of the subjects require major revamp to keep pace with the present day needs; while some of the subjects require rationalisation based on the existing curriculum for Secondary 4-5 and Secondary 6-7.

7. Based on the last public consultation on the overall curriculum framework and the forthcoming consultation on the curriculum details and assessment framework of individual subjects, the Curriculum Development Institute (CDI) of the Education and Manpower Bureau (EMB) will need to take forward an immense amount of development and redevelopment work to substantiate the NSS curriculum, enrich the curriculum content, test out the curriculum in schools, and carry out the necessary research and evaluation. In the process, the CDI will aim to develop a curriculum framework which could cater for a more balanced and diversified learning experience of the students. It will take into account the views expressed by the stakeholders during the consultation. It will also need to ensure that the new curriculum framework could cater for students with diverse needs, including those with special education needs (SEN).

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8. Moreover, the development of the NSS curriculum will have to tie in with the respective assessment and examination mechanism to ensure close synergy between the two. The CDI will work closely with Hong Kong Examinations and Assessment Authority (HKEAA) to prepare the curriculum-cum-assessment materials (including standards and exemplars that can illustrate the intrinsic relationship between curriculum and assessment) as well as provide clear guidance for reference of teachers and students in respect of each of the subjects. The CDI and the HKEAA will have to complete and make available details of the NSS curriculum and assessment at least two years before the new academic structure is to be implemented starting from the 2009/10 school year, so as to allow sufficient time for publishers to develop textbooks and reference materials, for teachers to prepare themselves for the new curriculum and assessment and to develop their own learning and teaching materials, as well as for schools to plan ahead and deploy teachers to teach the respective subjects accordingly.

9. The scale of curriculum development work involved is significantly larger than the recurrent activities of the CDI, and hence additional resources are required. We will provide funding for CDI to –

- (a) engage additional subject professionals in the relevant sections of CDI and procure external professional services as necessary to take forward the curriculum development work;
- (b) produce curriculum assessment guides and learning and teaching materials;
- (c) conduct targeted research projects, arrange scheduled advisory visits and engage external quality assurance review, as appropriate, to examine the comparability and practicability of the newly developed curriculum against established overseas experience; and
- (d) conduct publicity and organise activities (such as forums and seminars) to disseminate the new curriculum framework to various stakeholders.

Provision of diversified learning opportunities for students

10. The NSS curriculum will provide sufficient choices to cater for the diverse learning needs of students including the gifted students and those with SEN. Students whose aptitude and interest is in subjects with an applied emphasis may choose COS alongside other elective subjects. The inclusion of COS in the NSS curriculum has enjoyed widespread support. There are however concerns on the status and recognition for these subjects, and incentive and capacity of secondary schools to provide students with such learning opportunities.

11. To address these concerns and to pave way for the inclusion of COS in the NSS curriculum under the new academic structure, we plan to provide funding for the development and accreditation of COS courses. We shall build on the experiences of the career-oriented curriculum now being piloted in secondary schools, and develop the content and variety of such courses, conduct quality assurance and seek accreditation of the courses from the Hong Kong Council for Academic Accreditation. This will on the one hand help to assure quality and standards of the COS courses, and on the other hand enhance community recognition of the COS courses. After the launch of the pilot COS courses, we will conduct reviews from time to time on the nature and selection of courses to ensure that they can meet the prevailing community needs.

12. Unlike conventional subjects, the diversified learning including COS may be delivered in various modes, including schools procuring places from service providers (such as the Vocational Training Council), employing or re-tooling teachers to teach in-situ in schools, and/or joining hands with partner/neighbouring schools to complement each other in providing diversified learning opportunities to each other's students. We plan to try out the practicality of different modes of delivery before the full-scale rollout of COS in the NSS curriculum under the new academic structure.

13. We plan to offer COS courses, on a pilot basis, at about 19 500 places over three school years from 2005/06 to 2007/08 prior to the full-scale rollout of COS in the NSS curriculum in the 2009/10 school year. The actual number and distribution of the pilot places will depend on the number of COS courses available, the respective costs of the courses and the choice of students. In line with the existing arrangement for senior secondary school fees, students participating in the pilot COS will be required to pay tuition fees which are set at about 18% of the costs of the courses. To ensure that no students will be deprived of the opportunity to take COS courses due to the lack of means, we will offer student financial assistance to needy students on the same basis as the Senior Secondary Fee Remission Scheme.

Provision of core training for school principals and teachers

14. The community feedback received in the public consultation on the new academic structure has highlighted that the readiness, competency and confidence of teachers in taking on the changes is one of the keys to the success of the implementation of the new academic structure. Teachers are concerned whether adequate professional training will be provided to help them prepare for the NSS curriculum under the new academic structure.

15. We plan to provide training for school principals and teachers involved in planning and leading the migration to the new academic structure. We will also provide core training for subject teachers on a subject-specific basis to equip them with the foundation knowledge of the NSS curriculum. In short, the core training for school principals and teachers includes –

- (a) a minimum of 35 hours for school principals and senior staff of secondary schools involved in planning and leading the migration to the new academic structure;
- (b) a minimum of 30 hours of professional development for teachers who will continue to teach their present subjects; and
- (c) a minimum of 100 hours for teachers of the new subject of Liberal Studies (of which 35 hours will be compulsory and the remainder based on need).

We estimate that over 12 000 secondary school teachers will attend the training, and the total number of training hours will be about 900 000 hours.

16. In addition to the above training on the NSS curriculum, we will also provide professional training on the assessment system, in particular the expected standards and school-based assessment (SBA). The assessment training will be delivered on a subject-specific basis, in addition to that already covered in the \$136.7 million grant to HKEAA for its assessment development and research activities¹ approved by the Finance Committee on 27 February 2004 vide FCR(2003-04)65.

Teacher Professional Preparation Grant

17. During the public consultation, teachers have also expressed concern on whether they can cope with the requirements on professional development on top of their existing teaching workload. To ensure that the teachers could maximise the benefits from the professional training and development to get themselves well-prepared for the new academic structure, we need to enhance the capacity of schools and teachers (including special schools and their teachers) to cope with the additional changes and continue their sustainable development.

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¹ The grant of \$136.7 million to HKEAA covers development and research of assessment approaches including standard setting and exemplars, SBA and assessment training in a wider perspective (including assessment concepts and skills for teachers, using assessment for learning and so on). Out of \$136.7 million, \$11 million is reserved for training for teachers on assessment in general.

18. The proposed Teacher Professional Preparation Grant includes provision equivalent on average to 1.0 Graduate Master per annum per secondary school for four school years from 2005/06 to 2008/09. This will help create relief for serving teachers who have to attend the essential professional training and development activities, and make space for senior teachers in secondary schools to assist the school principals to plan and coordinate the migration to the NSS curriculum at school level. Besides engaging full-time or part-time teachers, schools also have the flexibility to procure necessary support services according to their individual school-based needs.

19. We foresee that teachers will face many curriculum and assessment changes in the run up to the implementation of the new academic structure, including the early implementation of the standard-referenced English and Chinese languages examinations (which also have SBA components) in 2007. While some schools and teachers may be more progressive and are better prepared for the reform, others may need more help. The Teacher Professional Preparation Grant will also provide support for schools to engage services that can enhance the professional capacity of teachers and the capacity of schools to meet specific needs. The actual needs of individual schools will be clearer when schools have worked out their own staff development plan, to tie in with the development of the NSS curriculum and assessment. We have reserved funding for assisting schools and teachers to enhance their professional capacity. The actual means of support would be determined nearer the time after the secondary schools have developed their migration plans and having regard to the then prevailing situation.

NSS Curriculum Migration Grant

20. To facilitate the smooth migration to the NSS curriculum, secondary schools may need to acquire additional supporting materials and necessary hardware (such as furniture and equipment pertinent to the NSS curriculum). We therefore propose to provide NSS Curriculum Migration Grant for secondary schools to procure necessary learning and teaching materials and to meet the start-up costs (including minor alteration works, furniture and equipment, as well as other necessary items) for migration to the NSS curriculum and the new academic structure.

Transitional arrangement for public examinations and assessment

21. Under the new academic system, the Hong Kong Diploma of Secondary Education (HKDSE) will replace the existing Hong Kong Certificate of Education Examination (HKCEE) and the Hong Kong Advanced Level Examination (HKALE). The HKDSE will be standard-referenced and it is our long-term plan to include SBA components in all NSS subjects. The new diploma will be articulated and benchmarked internationally.

22. To familiarise the first batch of candidates taking the HKDSE, as well as to ensure validity and reliability of the examination and to assist standard setting and international recognition, HKEAA has to conduct a mock run of the examination in advance. The current plan is to conduct the mock examination a few months preceding the first actual administration of HKDSE in the summer of 2012. The mock examination will be open to all students on a fair basis, and the wide coverage will also help to provide sufficient data for rigorous analysis of the marking mechanism, data analysis process, standard-setting process and testing of the reliability of the relevant information systems. The HKEAA will need to plan and develop the mock and the first actual examination well in advance and alongside the ongoing HKCEE and HKALE. While the HKDSE will continue to operate on a self-financing basis (as the current HKCEE and HKALE) with operating costs to be funded by examination fees, we will need to provide funding to HKEAA for the mock examination, as we do not aim to charge examination fees on students participating in the mock examination.

Timetable of implementation

23. The preparation work for the new academic structure needs to start as early as possible so that the UGC-funded institutions and their academic and support staff, secondary schools and their school principals and teachers, and other stakeholders will be well supported and prepared for the changes ahead. Considering the feedback from the public consultation, which has strongly supported an adequate preparatory period and 2009 as the first year for the new academic structure, we consider that it is timely to create a non-recurrent commitment now for meeting the aforementioned funding requirements and kick-start the preparatory work in the UGC-funded institutions and secondary schools.

FINANCIAL IMPLICATIONS

24. In the public consultation document published in October 2004, EMB estimated that the non-recurrent expenditure for the development of the NSS curriculum and the four-year undergraduate curriculum, professional development of teachers and operation of additional classes during the transition years² would be about \$3,300 million.

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² When migrating to the new academic structure, there will be a school year in which the last cohort of Secondary 7 students under the existing academic structure will co-exist with the first cohort of Senior Secondary 3 students under the new academic structure. Additional classes will be required for this “double cohort”.

25. In response to the concerns raised by the community during the public consultation exercise ended in January 2005, we now estimate that the non-recurrent expenditure will increase to about \$4,400 million. The increase is mainly due to the need for coping with the increase in demands for curriculum development and teacher training; as well as for providing schools with funding support to enable them to plan at school level, have access to professional development programmes and prepare for migration to the new academic structure. Of the \$4,400 million, we now propose to earmark \$2,447.2 million for funding the support measures set out in this paper. The remainder for operating additional classes during the transition years and for other purposes could only be ascertained nearer the time. We therefore propose to create a non-recurrent commitment of \$2,447.2 million now to provide funding to facilitate the UGC-funded institutions and secondary schools to gear up the preparation.

26. A breakdown of the non-recurrent expenditure requirement for the support measures is set out below, based on our best estimates at this stage –

	Estimated expenditure (\$ million)
The UGC sector	
(A) Development of the new undergraduate programme	548.5
The secondary school sector	
(B) Development of the NSS curriculum	207.0
(C) Provision of diversified learning opportunities for students	115.6
(D) Provision of core training for school principals and teachers	224.0
(E) Teacher Professional Preparation Grant	906.0
(F) NSS Curriculum Migration Grant	138.6
(G) Transitional arrangement for public examinations and assessment	85.0
Subtotal	2,224.7
Contingency (10%)	222.5
Total	2,447.2

Encl. 1 Further breakdown of the above estimates are set out at Enclosure 1.

Encl. 2 27. The projected cash flow is summarised as follows, with details provided at Enclosure 2 –

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Financial Year	\$ million
2005-06	361.4
2006-07	435.3
2007-08	382.6
2008-09	446.5
2009-10	123.5
2010-11	315.8
2011-12	159.6
Subtotal	2,224.7
Contingency	222.5
Total	2,447.2

28. For a significant reform exercise of this scale which spreads over a long implementation timeframe, we need the flexibility to cater for the contingent needs and changing demands that may arise in the course of preparation. We will closely monitor and review the expenditure situation, and redeploy resources among expenditure categories as and when necessary.

29. If Members approve the present proposal, we will provide for funds out of the approved commitments to meet the cash flow required in the relevant financial years. For 2005-06, we have earmarked the funding required in the Estimates.

BACKGROUND INFORMATION

30. The Chief Executive set out in his 2004 Policy Address the direction to develop a new senior secondary and higher education structure that will effectively prepare our next generation to cope with the demands of a knowledge-based society. He further set out in his 2005 Policy Address the commitment to actively take forward the reform.

31. To seek community feedback on the design blueprint, the timing for implementation and financial arrangement for the new academic structure, the Administration launched a three-month public consultation exercise which ended on 19 January 2005.

32. There was strong support in the community and across all key stakeholder groups for the direction of the new academic structure. Widespread consensus was found in the curriculum and assessment reform objectives and roadmap, despite concerns over the pace of change and supporting conditions for some of the reform elements, which need further consultation and continued dialogue as details of implementation are further developed. There were also demands from educators for additional resources to support teacher training, and to enhance the capacity of teachers to cope with the changes.

Consultation with the Panel on Education

33. We consulted the Legislative Council Panel on Education on the proposal in paragraph 2 above at its meeting on 3 June 2005. Members were supportive of the Administration's proposal to allocate resources to support the preparation and implementation of the new academic structure. Some Members requested further breakdown of the estimated expenditure, which we have now provided in Enclosure 1 of this paper. Some Members also expressed concern on whether there would be sufficient flexibility in reshuffling the resources among the support measures in view of emerging needs and changing circumstances, which we have explained in paragraph 28 above.

Enclosure 1 to FCR(2005-06)24

**Detailed breakdown of the current cost estimates of the
measures to support the development for the
new academic structure for senior secondary education and higher
education**

	Measures	Estimated cost (\$ million)
A	Development of the new undergraduate programme	
A1	<p>Early engagement of academic staff to prepare for the commencement of the four-year undergraduate programme</p> <p>(We estimate that half of the additional academic staff for the new four-year undergraduate programme will be engaged six months in advance and the remaining half of the additional staff will be engaged one month in advance before the commencement of the new programme starting from the 2012/13 academic year.)</p>	257.3
A2	<p>Development of the new four-year undergraduate programme</p> <p>(We estimate that a total of over 60 full-time professionals for over two years will be required to coordinate and implement the curriculum changes in about 50 faculties in the eight UGC-funded institutions.)</p>	227.0
A3	Additional supporting staff and development of the administration systems in the eight UGC-funded institutions	64.2
	<i>Subtotal for A1-A3</i>	548.5

B	Development of the New Senior Secondary (NSS) curriculum	
B1	Engagement of professionals or professional services to develop and validate the NSS curriculum (We estimate that on average 2.5 additional professional staff or equivalent professional services will be required for the development of the curriculum for each of the 24 NSS subjects.)	141.7
B2	Production of curriculum documents and resources, and learning and teaching support for teachers (We estimate that about \$1.5 million will be required for each of the 24 NSS subjects.)	36.0
B3	Research and development projects with schools to put the new curriculum in action (We estimate that about \$0.7 million will be required for each of the 24 NSS subjects.)	16.8
B4	Publicity and dissemination of the new curriculum and resources to schools and teachers (We estimate that about \$0.5 million will be required for each of the 24 NSS subjects, and \$0.5 million will be required for overall publicity work.)	12.5
	<i>Subtotal for B1-B4</i>	<i>207.0</i>
C	Provision of diversified learning opportunities for students	
C1	Provision of pilot COS courses to students and offer financial assistance to needy students (We estimate that a total of 19 500 places covering over 40 COS courses will be provided in the pilot, with each place costing from about \$5,500 to about \$8,000. Students will be required to pay tuition fees set at 18% of cost when participating in the pilot. Fee remission will be provided for needy students.)	111.4
C2	Accreditation of new COS courses (This has covered the accreditation costs for the over 40 COS courses, as well as re-accreditation for about one-third of the COS courses which may be enhanced/finetuned having regard to the results of the pilot.)	4.2
	<i>Subtotal for C1-C2</i>	<i>115.6</i>

D	Provision of core training for school principals and teachers	
D1	<p>Provision of core curriculum training on the NSS subjects for all school management and teachers</p> <p>(This covers training for 12 000 secondary school teachers (a minimum of 35 hours of training for school principals and senior staff involved in planning and a minimum of 30 hours of training per NSS subject for subject teachers) and additional training for the some 3 600 teachers who will teach the new subject of Liberal Studies (a minimum of 100 hours). For school management, series of workshops will be conducted to help them steer the change processes to the NSS at school level.)</p>	192.1
D2	<p>Provision of subject-specific training on SBA by the Hong Kong Examinations and Assessment Authority (HKEAA)</p> <p>(This covers training for 12 000 secondary school teachers at about 15 hours of training per NSS subject on SBA under the standard-referenced examinations of the Hong Kong Diploma of Secondary Examination (HKDSE).)</p>	31.9
	<i>Subtotal for D1-D2</i>	224.0
E	Teacher Professional Preparation Grant	
E1	<p>Provision of cash grant equivalent to on average one Graduate Master (GM) for each school over a period of four school years to all secondary schools starting from the 2005/06 school year, for providing teacher relief of serving teachers to attend training, and to create capacity for a senior teacher in each school to coordinate the change to NSS</p> <p>(Resource equivalent to half of a GM is required for releasing serving teachers to attend the core training over the preparatory period. Resource equivalent to the other half of a GM is required to release half of the workload of a senior teacher to coordinate the change processes at school level.)</p>	786.0
E2	<p>Provision reserved for further support to secondary schools to procure, on a school-based manner, professional and support services that can support teachers in the change processes</p> <p>(Actual funding requirement would be considered nearer the time after the secondary schools have developed their migration plans and having regard to the then prevailing situation.)</p>	120.0
	<i>Subtotal for E1-E2</i>	906.0

F	NSS Curriculum Migration Grant	
	Provision of cash grant to all secondary schools to procure necessary learning and teaching materials and equipments (We estimate that \$20,000 will be required for each NSS subject per school.)	138.6
	<i>Subtotal for F</i>	<i>138.6</i>
G	Transitional arrangement for public examinations and assessment	
	Mock examination for all students in the first cohort of Senior Secondary 3 prior to the actual HKDSE (The cost estimate is based on existing running cost of the existing Hong Kong Certificate of Education Examination by the HKEAA.)	85.0
	<i>Subtotal for G</i>	<i>85.0</i>
	Subtotal for A to G	2,224.7
	Contingency (10%)	222.5
	Total funding requirement	2,447.2

Enclosure 2 to FCR(2005-06)24

**Projected cash flow of
measures to support the development for the
new academic structure of senior secondary education and higher education**

Financial year	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Subtotal
Items	\$m							
Development of the new undergraduate curriculum				69.8	99.7	219.4	159.6	548.5
Development of the New Senior Secondary (NSS) curriculum	91.0	55.4	17.8	17.8	13.6	11.4		207.0
Provision of diversified learning opportunities for students	7.5	24.2	39.8	33.9	10.2			115.6
Provision of core training for school principals and teachers	40.7	81.5	50.9	50.9				224.0
Teacher Professional Preparation Grant	187.5	239.5	239.5	239.5				906.0
NSS Curriculum Migration Grant	34.7	34.7	34.6	34.6				138.6
Transitional arrangement for public examinations and assessment						85.0		85.0
Subtotal	361.4	435.3	382.6	446.5	123.5	315.8	159.6	2,224.7
Contingency								222.5
Total								2,447.2
